

Date: Thu, 21 Oct 93 04:30:41 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V93 #79  
To: Ham-Homebrew

Ham-Homebrew Digest              Thu, 21 Oct 93              Volume 93 : Issue 79

Today's Topics:

Azden PCS 2000...HELP!  
INTERMOD (5 msgs)  
Need Louder PC Speaker for Code Practice.  
Transistor substitution question (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 19 Oct 1993 17:23:48 GMT  
From: dog.ee.lbl.gov!agate!spool.mu.edu!news.clark.edu!netnews.nwnet.net!serval!  
owl.csrv.uidaho.edu!crow.csrv.uidaho.edu!wineb901@network.ucsd.edu  
Subject: Azden PCS 2000...HELP!  
To: ham-homebrew@ucsd.edu

I am having technical problems with my azden PCS 2000 2m  
rig. IF you have knowledge of the whereabouts of technical manuals  
or diagrams, or if you know an address I could write to to find  
some. Please let me know. I'm desperate. Please reply to my  
personal E-mail account. Any help wuold be greatly appreciated.

-Thanx in advance,  
-Carl W.

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Date: 20 Oct 1993 07:45:02 CDT  
From: mdisea!mothost!schbbs!maccvm.corp.mot.com!CSLE87@uunet.uu.net  
Subject: INTERMOD  
To: ham-homebrew@ucsd.edu

Gary, I think you missed a very subtle difference. Dave Feldman really did say and mean PRE-AMP, not POWER AMPLIFIER. Therefore his approach is technically correct and viable, although your technically better idea of using a bandpass filter was expressed by others and apparently will be in print in the next issue of QST.

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----- Original Article -----

Newsgroups: rec.radio.amateur.homebrew  
From: gary@ke4zv.atl.ga.us (Gary Coffman)  
Subject: Re: INTERMOD  
Reply-To: gary@ke4zv.UUCP (Gary Coffman)  
Organization: Destructive Testing Systems  
Date: Wed, 20 Oct 1993 04:20:42 GMT  
Lines: 18

In article <CF3wtM.C5x@csn.org> dfeldman@teal.csn.org (Dave Feldman) writes:  
>  
>Look for a "dead" inline VHF preamp for sale -- make sure it's RF switching  
>still works, but OK if the amp (transistor) itself is dead. Then open it up  
>and replace what was the amp with an appropriate attenuator.

Of course if you do this, you'll have attenuation on transmit and none on receive. That's not really what was wanted. A better solution is a tight bandpass filter in the line between the radio and the antenna. A cavity would be nice.

Gary

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Date: 20 Oct 93 19:51:12 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Intermod  
To: ham-homebrew@ucsd.edu

I have a suggestion and a question regarding the intermod problem on 2-meters. The suggestion: get a Realistic HTX 202 HT. This HT rejects intermod very well, probably because it does not have extended receive capability, either with or without mods. I often use mine within 1 mile of a commercial FM station tower and don't hear a peep from it, regardless of

whether I'm running from a "duck", 5/8 th mobile verticle, or base discone.  
I hear that the radio is made by ICOM.

Now the question. Broad band scanners have terrible problems with intermod. Mine is completely overloaded from about 65 through 200 Mhz. In response to VE2ILF's question, several of you suggested 2 meter bandpass filters. Anyone know of any plans for vhf public service band, bandpass filters? I'd appreciate any info.

Mark Hemlick KA3LFG

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Date: 20 Oct 93 09:35:55 EDT  
From: swrinde!elroy.jpl.nasa.gov!usc!math.ohio-state.edu!howland.reston.ans.net!  
pipex!sunic!psinntp!psinntp!arrl.org@network.ucsd.edu  
Subject: INTERMOD  
To: ham-homebrew@ucsd.edu

In rec.radio.amateur.homebrew, gary@ke4zv.atl.ga.us (Gary Coffman) writes:  
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>on receive. That's not really what was wanted. A better solution is a  
>tight bandpass filter in the line between the radio and the antenna.  
>A cavity would be nice.

No, the original poster was right. The (pre)amp is typically switched out during transmit, so the loss is minimal. You can make the attenuator out of cheap metal film resistors--I've found they work just fine at VHF. Page 25-39 of the 1993 Handbook has some useful tables.

Cavities tend to be too sharp to be practical--though you can increase the coupling to broaden the bandwidth. But, a single cavity won't have much attenuation far away from the desired frequency. It would have the advantage of lower loss, but this isn't a useful benefit on receive in the urban environment where VHF has a noticeable background noise. Also, you want to make sure the cavity is mechanically stable--I don't recommend transmitting into a de-tuned cavity.

Rather than having a "tight" filter with poor stopband attenuation, you probably want a filter several sections to highly attenuate high

power FM and TV stations. If you go with helical filters, you might even consider adding a low pass filter, to eliminate high order responses typical of these filters (A 2M helical filter will often pass signals someplace around the 3rd and 5th harmonics just fine, for example). Using a set of relays to switch a moderately lossy filter out during transmit may make sense--people actually sell helical filters with over 6 dB of loss. Those with test equipment and the tools can make 2M helical filters out of house wire and brass sheet with under 0.5 dB of loss.

Zack Lau KH6CP/1

Internet: zlau@arrl.org "Working" on 24 GHz SSB/CW gear  
Operating Interests: 10 GHz CW/SSB/FM  
US Mail: c/o ARRL Lab 80/40/20 CW  
225 Main Street Station capability: 1.8 MHz to 10 GHz  
Newington CT 06111 modes: CW/SSB/FM/packet  
amtor/baudot

Phone (if you really have to): 203-666-1541

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Date: Wed, 20 Oct 1993 16:32:00 GMT  
From: utcsri!newsflash.concordia.ca!vax2.concordia.ca!drobert@uunet.uu.net  
Subject: INTERMOD  
To: ham-homebrew@ucsd.edu

I should have mentioned it before, but I also whish to retain the wide-band receive capabilities of my dual-band radio. A narrow band pass filter would not allow that. That's why I think desensitizing of the front end is the way to do it.

Thanks to everyone for the responses & 73 de Denis.

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| : 1+514.769.7829 H . ' . ~ ' . ; ' : ' " ' , |  
| 1+514.848.3454 W " \* + ' . ~ Space ... ~ ' |  
| " cis:71271,2616 ; . , +. , The Final Frontier. \*. " |  
| ' Drobert@vax2.Concordia.ca + \* . , ; " ' ` ~ , . ~ . , + |  
| ~ Drobert@Conu2 \* + ` ~ . , : \* ; ' " . , + \* |  
| " \* , 71271.2616@Compuserve.com + , \* \* , . . + + |  
| , : ve2ilf@ve2fkb.#MTL.PQ.CAN.NA ' " , . , . : |  
| . - , +, ' - . . \* . ' - , . +\* ' . . \*\*+ |

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Date: 20 Oct 1993 16:07:50 GMT

From: koriel!newscast.West.Sun.COM!male.EBay.Sun.COM!uranium!raymonda@ames.arpa  
Subject: INTERMOD  
To: ham-homebrew@ucsd.edu

In article 12070@ke4zv.atl.ga.us, gary@ke4zv.atl.ga.us (Gary Coffman) writes:  
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. >A cavity would be nice.  
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. >--  
. >Gary Coffman KE4ZV | "If 10% is good enough | gatech!wa4mei!ke4zv!gary  
. >Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary  
. >534 Shannon Way | enough for Uncle Sam." | emory!kd4nc!ke4zv!gary  
. >Lawrenceville, GA 30244 | -Ray Stevens |  
.

Gary,

I agree with your suggestion that a good bandpass filter would be a better choice than a switched attenuator, but your assertion that the hacked up VHF preamp would attenuate on xmit and not on receive is wrong IMHO. Perhaps you were thinking of a modified power amp instead?

Ray WB6TPU  
raymonda@uranium.ebay.sun.com  
rander@netcom.com

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Date: 21 Oct 93 01:11:09 GMT  
From: world!rbarnaby@uunet.uu.net  
Subject: Need Louder PC Speaker for Code Practice.  
To: ham-homebrew@ucsd.edu

I'd like to add a simple speaker to an IBM PC that is externally controlled. Just an op-amp, a pot, and a speaker? Tap into the pc's speaker "jack"?

I don't want a "sound blaster card", just a good quality speaker capable of amplifying (and enhancing the tone) from a standard

speaker.

Impedence of speaker matter? Any ol' radio shack \$5 speaker do?  
Just looking for someone that might have done it before I go shopping  
saturday for parts.  
Thanks in advance.

Richard L. Barnaby (KD1RU) rbarnaby@world.std.com

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Date: 20 Oct 93 13:57:01 EST  
From: dale.ksc.nasa.gov!titan.ksc.nasa.gov!k4dii.ksc.nasa.gov!user@ames.arpa  
Subject: Transistor substitution question  
To: ham-homebrew@ucsd.edu

In article <2a2r42\$fvi@klaava.Helsinki.FI>, stickler@klaava.Helsinki.FI  
(Patric M Stickler) wrote:  
> I blew the final in my QRP tranceiver (a MRF476), but can't find an exact  
> replacement for it here in Finland. I could order a replacement from  
> the States, but I happen to have two MRF475's.

Patrick-

According to the Motorola data book, the MRF475 and 476 are relatively similar. However, there are enough differences to expect that the 475 would have slightly lower power output in the 476 circuit.

Basically, the 475 has higher power capability, but lower gain. It also has different input and output impedances. I would guess that the two might have been intended as a pair, where the MRF476 was the driver for a MRF475 final stage.

I suggest you go ahead and try the 475. If it puts out about half the power of the 476 in your circuit, at least you're back on the air!

73, Fred, K4DII

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Date: 20 Oct 1993 09:58:58 +0200  
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!pipex!sunic!news.funet.fi!  
klaava!klaava!not-for-mail@network.ucsd.edu  
Subject: Transistor substitution question  
To: ham-homebrew@ucsd.edu

I blew the final in my QRP tranceiver (a MRF476), but can't find an exact replacement for it here in Finland. I could order a replacement from the States, but I happen to have two MRF475's. Does anyone know if I

can substitute a 475 for the 476. The only component catalog I've looked at show them as fairly similar transistors, but with the 475 with a higher output rating (?).

Any suggestions would be greatly appreciated.

//////////////////////////////  
Patrick M. Stickler OH2LUV, KC4YYY The comments contained herein  
WSOY - Information Systems Division do not necessarily reflect the  
Helsinki, FINLAND (psti@wsoy.fi) official views of my employer.  
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End of Ham-Homebrew Digest V93 #79  
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